REMARKS

Applicant respectfully requests reconsideration of this application. Claims 1, 2, 4-8, 10-14, and 16-21 are pending. Claims 7 and 13 have been amended. No claims have been cancelled or added.

Therefore, claims 1, 2, 4-8, 10-14, and 16-21 are now presented for examination.

Claim Amendments

Certain very minor punctuation and format corrections have been made to the claims to place the claims in proper form for allowance or appeal. No new material has been added to the claims and no substantive changes have been made to the claims and thus no further search is required for examination of the claims.

Claim Rejection under 35 U.S.C. §101

The Examiner rejected claims 7, 8, 10-12, and 20 under 35 U.S.C. 101 as being directed to non-statutory subject matter, finding that claim 7 is directed to a program data structure not limited to a tangible computer readable medium.

Without any concession regarding the substance of the rejections, the Applicant has amended the Specification to remove reference to electrical, optical, acoustical, and other forms of propagated signals.

It is submitted that this amendment fully responds to the rejection, and the rejection should now be removed.

Claim Rejection under 35 U.S.C. §103

McKeown et al. in view of Salton et al

The Examiner rejected claims 1 and 5-6 under 35 U.S.C. 103(a) as being unpatentable over "Towards Multidocument Summarization by Reformulation: Progress and Prospects, 1999" of McKeown, et al. ("*McKeown I*") in view of "Automatic Text Structuring and Summarization, 1997" of Salton et al. ("*Salton*").

With regard to claim 1, rejected here, and claims 7 and 13, the Final Office provides a response to the Applicant's argument. It is submitted that the description of the Applicant's arguments presented in the Final Office Action contains certain inaccuracies. Further, the Final Office Action appears to misconstrue what is meant by the term "subsume". The Applicant hereby presents a clarification of the arguments in order to better explain the differences between the claims and the cited references.

Elements of Claim 1 Not Contained in References – As was stated in the previous response, claim 1 includes "selecting paragraphs based on the ranking, wherein paragraphs in the ranking that subsume the highest number of other paragraphs are selected prior to the other paragraphs in the ranking".

Applicant is arguing that the <u>selection of paragraphs that subsume the largest number of other paragraphs</u> provides a different and significant result in comparison to <u>basing a summary on ranking of link counts</u>. It is submitted that, in addition to other differences, the cited references do not provide for <u>selection of paragraphs that subsume the highest number of other paragraphs</u>.

With regard to this point, the Applicant is arguing more generally that that *Salton* does not address the usage of subsumed paragraphs in the selection of paragraphs for

aggregation into a summary. (The Final Office Action appears to indicate that *McKeown I* does not address this subject.) The point of this argument is that if the general concept of the usage of subsumed paragraphs in the selection of paragraphs for aggregation into a summary is not taught at all in the reference, then the reference does not (and cannot) address the more specific claim element regarding the selection of paragraphs that subsume the highest number of other paragraphs.

Thus, the Applicant is arguing:

a) *Salton* does not address the usage of subsumed paragraphs in the selection of paragraphs for aggregation into a summary.

b) More specifically, *Salton* does not provide for the selection of paragraphs that subsume the highest number of other paragraphs.

Examiner's Response to Arguments – In response to the arguments presented by the Applicant, the Final Office Action provides the following:

> The applicant is correct in stating that Salton acquires paragraph for summary based on a measure of "bushiness", however, the examiner notes that such a measure would teach the aforementioned claim limitations. Specifically, Salton discloses that links *(i.e., paths, connections)* between nodes or paragraph are established and the paragraphs having the most overlapping vocabulary/concepts with other paragraphs are selected as summary *(Section 3-3.1, Page 198)*.
>
> Thus, in response to point a.) of the applicant's arguments, the examiner notes that Salton does teach the concept that a paragraph or node that a paragraph subsumes or incorporates another paragraph because Salton discloses that "bushiness" refers to a paragraph having terms in common with another or *"discuss[es] topics covered in many other paragraphs" (Section 3-3.1, Page 198)*. In other words, higher ranking

paragraphs selected for summary incorporate or subsume the topics and terms of many other paragraphs. Thus, Salton discloses the aforementioned concept.

The Examiner's response is incorrect and does not address the arguments presented by the Applicant for the following reasons:

(1) **Use of Subsumption for Selection of Paragraphs** – The argument presented herein by the Applicant is not simply whether any paragraphs may subsume other paragraphs. The point is the *Salton* does not address the <u>usage of subsumed paragraphs in the selection of paragraphs for aggregation into a summary</u>. The mere fact that one paragraph could arguably subsume other paragraphs is irrelevant if this is not being used in the selection of paragraphs.

However, it will be seen below that it is not possible to determine whether paragraphs are subsumed in *Salton*.

(2) **Meaning of Subsumption** – The portions of the *Salton* reference cited by the Examiner include the following:

A text summary can be generated by selectively extracting important paragraphs from the text. This could be accomplished by automatically identifying the important paragraphs on a text relationship map and traversing the selected nodes in text order to construct an extract, or *path*. In dealing with text traversal, it is necessary to distinguish the so-called global paths that operate on a complete text from paths restricted to some substructure, such as paths within a segment. In either case, many different traversal orders can be considered, the most important being as follows.

3.1. Bushy path

The *bushiness* of a node on a map is defined as the number of links connecting it to other nodes on the map. Since a highly bushy node is linked to a number of other nodes, it has an overlapping vocabulary with several paragraphs and is likely to discuss topics covered in many other paragraphs. Such paragraphs are desirable in a summary, and are good candidates for extraction. When paragraphs that are linked to other paragraphs of the article are extracted, the summaries are quite comprehensive, i.e. the coverage of the subject matter of the article is good. <u>A global bushy path is constructed out of the *n* most bushy nodes on the map</u>, wherein *n* is the targeted number of paragraphs in a summary. <u>These nodes are arranged in chronological order</u>, i.e. the order in which they appear in the original document, to form the summary.

(*Salton*, p. 198, §§3-3.1) (emphasis added)   In this portion, *Salton* defines what "bushiness" means: "The *bushiness* <u>of a node on a map is defined as the number of links</u> <u>connecting it to other nodes on the map</u>."   After the meaning is established, the reference goes on to indicate that because a highly bushy node is linked to a number of other nodes, it has an overlapping vocabulary with several paragraphs and is likely to discuss topics covered in many other paragraphs.

However, this does not describe **subsumption**. The Final Office Action appears to be applyin an incorrect meaning for subsumption. Simply having a number of links with other nodes does not indicate that any node <u>subsumes</u> any of the other nodes. A first paragraph subsumes a second paragraph only if the first paragraph includes all relevant elements of the second paragraph. In this context, the common meaning of subsume describes "containing", "including", or similar terms. Unless a first paragraph has all the relevant elements of a second paragraph, there is no subsumption. As indicated in the Specification: "For example, if all the noun/verb phrases and entity names in a paragraph

A are also in paragraph B, then B subsumes A." (Specification, page 5, lines 16-17)

"Because all of the entity names in paragraph 501 are also contained in paragraph 502, paragraph 502 can be said to subsume paragraph 501." (Specification, page 8, lines 7-9)

Thus, <u>"bushiness" does not equate with "subsumption" – these are different concepts.</u> Bushiness is a measurement of how many other nodes a node is connected to. Stated another way, a paragraph would be considered very "bushy" if it has common terms with many other paragraphs. However, the bushiness of a paragraph indicates nothing regarding the subsumption of other paragraphs. <u>A first paragraph could link to a million other paragraphs (and thus be extremely "bushy") without subsuming any of these paragraphs.</u>

To provide an example, assume the following nodes include the following elements:

    Paragraph 1 – A, B, C

    Paragraph 2 – B, E, F, G

    Paragraph 3 – C, I, J, K

    Paragraph 4 – C, L, M

    Paragraph 5 – C, I, J, K, L, M

By the *Salton* standard, Paragraph 1 is relatively bushy, having links to Paragraphs 2, 3, 4, and 5. However, Paragraph 1 does not subsume any of these paragraphs. Paragraph 5 is less bushy, but subsumes Paragraphs 3 and 4. Bushiness does not provide indicate whether a node subsumes any other nodes, and a high level of bushiness does not imply a high level of subsumption.

Salton is using a different standard for determining which paragraphs might be included in a summary. *Salton* provides that a summary in this manner is based on the path which is constructed of the "bushiest" nodes, the nodes containing the highest number of links to other nodes. While this may indicate that a paragraph is related to many other paragraphs, <u>this is not the standard provided in the claims</u>. In *Salton*, the "bushiness" of the node does not provide any indication whether the node subsumes any of the other nodes. Thus, *Salton* does not meet arguments a) or b) – *Salton* does not address the usage of <u>subsumed paragraphs</u> in the selection of paragraphs for aggregation into a summary, and, more specifically, *Salton* does not provide for the selection of paragraphs that <u>subsume the highest number</u> of other paragraphs.

Applicant hopes that this clarifies the issues presented in the arguments in this matter. Thus, it is again submitted that neither *McKeown I* nor *Salton* addresses the use of subsumption of paragraphs are provided in claim 1. Claim 1 provides an element that will modify the summary using relationships that are not recognized by either of the cited references.

The remaining rejected claims are dependent claims, and are allowable as being dependent on the allowable base claim.

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Claim Rejection under 35 U.S.C. §103

McKeown, et al. in view of Salton et al. in view of McKeown, et al.

and further in view of Ueda

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The Examiner rejected claim 2 and 19 under 35 U.S.C. 103(a) as being unpatentable over *McKeown I* in view of *Salton*, in view of U.S. Patent 6,473,730 of

McKeown et al., (*"McKeown II"*) and in further view of U.S. Patent 6,493,663 of Ueda (*"Ueda"*).

The rejected claims are a dependent claim, and are allowable as being dependent on the allowable base claim.

While cited for other purposes, it is submitted that *McKeown II* and *Ueda* do not teach or reasonably suggest the claim elements show above to be missing from *McKeown I* and *Salton*.

Claim Rejection under 35 U.S.C. §103

McKeown-1 et al. in view of Salton et al. in further view of McKeown-2 et al.

The Examiner rejected claim 4 under 35 U.S.C. 103(a) as being unpatentable over *McKeown I* in view of *Salton*, in further view of *McKeown II*.

The rejected claim is a dependent claim, and is allowable as being dependent on the allowable base claim. All of the references are addressed above.

Claim Rejection under 35 U.S.C. §103

McKeown-1 et al. in view of Salton et al. in further view of Ueda

The Examiner rejected claims 7, 11-13 and 17-18 under 35 U.S.C. 103(a) as being unpatentable over *McKeown I* in view of *Salton*, in further view of *Ueda*.

It is submitted that the above arguments with regard to *McKeown I* and *Salton* for claim 1 also apply to independent claims 7 and 13, and thus such claims are also patentable over such references.

The remaining rejected claims are dependent claims, and are allowable as being dependent on the allowable base claims. *Ueda* is addressed above.

Claim Rejection under 35 U.S.C. §103

McKeown-1 et al. in view of Salton et al. in view of Ueda in further view of McKeown-2

The Examiner rejected claims 8, 10, 14 and 16 under 35 U.S.C. 103(a) as being unpatentable over *McKeown I* in view of *Salton*, in view of *Ueda* and in further view of *McKeown II*.

The rejected claims are dependent claims, and are allowable as being dependent on the allowable base claims. All the references are addressed above.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (503) 439-8778 if there remains any issue with allowance of the case.

Request for an Extension of Time if Needed

The Applicant respectfully petitions for an extension of time to respond to the outstanding Office Action should one be necessary. Please charge any required fee to our Deposit Account No. 02-2666.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: <u>January 28, 2008</u>   <u>*/Mark C. Van Ness/*</u>
                          Mark C. Van Ness
                          Reg. No. 39,865

1279 Oakmead Parkway
Sunnyvale, CA 94085-4040
(503) 439-8778